

## MODELS OF CRISIS MANAGEMENT IN A CHANGING ENVIRONMENT

**Vera Chizh**

Prof. DSc, Cherkasy State Technological University, e-mail: vera-chizh@yandex.ru, Ukraine

**Valentina Gavrylenko**

Associate Professor PhD, Cherkasy State Technological University,  
e-mail: vali4ka14@mail.ru, Ukraine

**Abstract.** The article investigates and systematizes the factors affecting the occurrence of the crisis at the enterprise; considered the management models of production, logistics, marketing and investment activity of the enterprise, models of financial and of personnel management, which altogether provide the process of anti-crisis management and create conditions for the company withdrawal from the crisis and refine the efficiency of its activities.

**Keywords:** enterprise, anti-crisis management, model, production, logistics, marketing, finance, personnel.

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### Introduction

Modern economic development is inseparably connected with the process of globalization, which covers all spheres of life: social, political, cultural, economic. Active introduction of information technologies and systems in the activity of economic entities enhances communication connections and accelerates the processes of formation and transformation of the world community. Numerous financial crises, military conflicts complicate the geopolitical situation and significantly affect the economy of the countries. In this regard, the signs of the current economic situation are: instability, unpredictability, fierce competition, which affect not only the relationship of the enterprise with the external business environment, but also affect its internal processes. This causes the need for changing to avoid the crisis and ensuring stable development. Changes need to be controlled. The emphasis on traditional economic indicators and the use of standard management practices in a turbulent environment turned out to be insufficient for the development of enterprises, and new approaches and tools of management that predetermine the actuality of research in this direction are required.

### Development of enterprises's anti-crisis management principles and methods

The problem of improving the enterprise management is not new. The enterprises development from the position of society formation, the development of the theories of management is studied in the scientific works of such scientists as Ackoff (2002), I. Anosoff (1999), John Galbraith (1979), Daley (2002), P. Drucker (2008), Boris Karloff (2004), Mintzberg (2000), F. Taylor (1991), A. Fayolle (1992). Extensive scientific contribution to the methodology management of development of various socio-economic systems was brought by domestic scientists: A. G. Belous (2006), N. V. Vasuda (2014), V. M. Geyets (2000),

V. G. Gerasimchuk (1995, 2007), B. M. Danilishin (2004), B. A. Karpinski (2005), S. L. Pakulin (2016), V. S. Ponomarenko (2003), Y. V. Rayevneva (2007), S. K. Ramazanov (2009), I. I. Smachilo (2012) and many others. The works of these scholars are devoted to the formation and interaction of economic, social, environmental, corporate systems in a strategic perspective. Acknowledging the results of the theoretical and applied study of the crisis management issues in different socio-economic systems and at the level of the country's economy; it should be noted that in this direction there is still a number of unsolved issues. Further studies require the aspects related to the development of a conceptual approach of crisis management, which would ensure its effective activity in unstable conditions of the economy.

The purpose of this article is to develop models of enterprise anti-crisis management in a rapidly changing environment.

Certain risks and uncertainties affect the functioning of the enterprise in the market environment. In unstable economic environment the levels of risk factors and uncertainty increase the activity of the company may become ineffective. In order to prevent such outcome it is necessary to use a specific set of measures, models and methods that can help the enterprise to restore efficient operation, and together they constitute the basis of anti-crisis management. Anti-crisis management requires the formalization of enterprises as complex socio-economic system. Parameters of formalization can be purposes, legal and regulatory activities; resources; processes; structure; division of labor and distribution of roles, the external environment; the internal social and economic ties and relations. Using the control functions, the system that has the resources at the entrance, transforms them to the products or services and can adapt to changes.

In the general case the management process is a cyclical process in which, based on the modeling of the current state of the management subject, the goals are defined, the impact factors are explored, management decisions are developed and their implementation is controlled. Components of the management process are a problem and the staff.

It is in connection with a deviation from the planned state, which is noted in a specific moment or projected for the future, crises in enterprises can arise.

A combination of factors and conditions contributing to the emergence of a particular crisis situation, in the scientific literature is divided into two groups: internal factors and external factors. Analysis of existing approaches allowed us to organize the group factors that significantly affect the condition of the enterprise.

The internal factors which depend on the enterprises contain goals, development strategy, status of portfolio, structure of production and management, financial and human resources and quality of products. They form the enterprise as a system, the relationship and interaction elements of which ensures the goals achievement that it faces. Therefore, the change of one or more factors at the same time raises the need of making management decisions aimed at preserving the system as a whole organization and avoiding the crisis. Internal factors are well managed.

External factors form the environment in which the company operates and is characterized by high complexity, dynamism and uncertainty. They include the state of the economy, technological and social development, the political situation, the globalization of the world economy. External factors are poorly controlled, have an indirect effect on the business, so you need to consider the possible consequences of such influence. Analysis of the factors allows us to consider the problem in connection with the events that caused it, and

changes in the internal and external environment of the enterprise, and begin the search for the necessary solutions.

The basis for the development of management decisions can be considered as the model of enterprise management. On the basis of such models it is provided the enterprise activity planning or decision-making for management of the enterprise functioning. Planning tasks consist of determining the production plan, selecting the range of products, agreed planned targets with resources. In the analysis of enterprise functioning tasks, the issues of cost optimization, pricing, profit distribution, determining sources of functioning and acceleration of sales are solved.

In the terms of anti-crisis management the main requirements for planning and managing business are to ensure effective functioning, elimination and prevention of the crisis phenomena in all activities of the enterprise. These requirements can be reflected in the structure of models in the activities of the company: production, logistics, marketing, financial, personnel, organizational. According to these directions the model needs to contain appropriate mechanisms of activity of the enterprise, sources of their formation, the feedback between the output and sale of products and production resources.

In the general case the model of enterprise management can be divided into dynamic and static. The dynamic model includes the definition of the output, identification of necessary financial resources, the products pricing, calculation of necessary profit, the impact of deviations in prices of resources on production, the timing of technical systems conversion. Static models are the models of resource planning, load optimization of equipment and personnel distribution according to the type of work, the choice of the product manufacturing technology, planning the product range and demand for goods.

Management models should reflect the most essential regularities of resources transformation (material, financial, labor) of products manufactured by the enterprise, and reflect the profit obtained after selling. For each direction of activity of the enterprise should be developed separate models.

The dominant factor of stable activity of the enterprise is its production activity which depends on many other parameters. Variable and fixed costs of production relate to the parameters which the company's executives can actively influence with the help of improved manufacturing techniques (reducing material intensity, energy intensity, production specialization, mechanization and automation), labor productivity increase, changes in staff, salary conditions and the like. Monitoring these factors is important to ensure the efficient functioning of production.

Determination of the enterprise production output for some period is based on available cash and borrowed funds, information about the volume of goods produced for past periods and the proportion of its realization in the following periods, a price index, mandatory taxes and fees included in variable and fixed costs, wages. Determination of production volume allows to prepare in advance the options for rational solutions to emerging and projected changes in input prices, changes in own and borrowed funds, to adjust the plans of production, credit, changes in selling prices. This gives the possibility to predict the onset of the moments of production destabilization (the emergence of crisis factors) and to use anti-crisis management as the best form of anti-crisis management to prevent crisis in the enterprise. In the terms of inconsistency of costs and financial resources, the plan of production should be adjusted to decrease or reduce of costs because it can cause the insolvency. Model of volume production allows to predict the time of occurrence of crisis situations in the enterprise,

conditions of their occurrence and to take timely management decisions about the implementation of relevant anti-crisis measures.

Application of anti-crisis management in production includes the following activities: development of the production management goals, aimed to overcome the crisis in manufacturing and to provide the development of enterprises, assessment of possibilities of the established goals achievement in the enterprise operation in normal or restored mode, selection of the appropriate production strategy, its implementation and control.

The inefficiency of logistics management can also cause a crisis of production. Therefore, it is necessary to build adequate, effective models of enterprise logistic management.

Logistics management in the anti-crisis management of the enterprise is aimed at efficient solution of such tasks: processing, recording and storing information about stocks; development of decision rules that is the basis for setting the duration and size of orders needed to replenish inventory; development of a production financing strategy for future periods. These tasks are interrelated and their solution can be represented as a hierarchical system, the first level - the existence reserves and the reserves that will be created through the orders placement and backlog for customer orders. The second level is rules of decision-making that focus on real reflection of the current situation; the third level model - the system of logistic activities management of the enterprise.

Anti-crisis management is impossible without marketing management. From the point of view of anti-crisis management, marketing is seen as a concept of enterprise management, includes the following components: market research (product research; consumer research; a study of the basic parameters of the market; market research; market segmentation and selection aimed segment; determining the market size and the share of the enterprise market); range control (choice of commodity policy of the enterprise; the choice of marketing production type; development of the production program; scientific research work; forecasting the life cycles of products), sales management (the choice of forms and methods of marketing; program development costs; demand generation and sales promotion), advertising management (media and types of advertising; development of the marketing campaigns; planning of advertising budget), marketing management (developing marketing strategies; developing the marketing programs).

Effective management of marketing is based on marketing studies, which are a system of collection, summaries, analysis and forecasting of the data needed for the specific marketing activities at any level. Marketing research needs to be focused on single scientific requirements, based on the general theories, methodological principles and pursue common goals.

The main purpose of marketing research is information-analytical study of search and selection of the optimal economic decisions. To achieve this it is necessary to solve the following tasks effectively: collection, processing and review of information; assessment and analysis of market conditions; estimation, analysis and forecasting own opportunities of the enterprise; assessment and analysis of the opportunities and activities of competitors (percentage of competitors in the market segment, the profit share in the price); regular measurements of the market quantitative parameters and determination of its capacity; demand forecasting (forecast of the realized demand, insufficient demand); identification and assessment of commercial risk; information-analytical study of marketing strategies and marketing programs; information and analytical support of pricing strategies; identifying the preferences and views of consumers; evaluation of advertising effectiveness; the goods testing

(goods must correspond at least the average standard of the market); analysis of the effectiveness of trade; permanent control over the implementation of marketing programs. Thus, marketing research is the process of finding and effective solution of the problems connected with commodity policy of the enterprise and directly affects the performance of the enterprise as a whole.

It is proposed to use the method of logical-semantic modeling, in order to identify the problems of marketing management the sequence of which is given in the table 1.

Functioning in the external environment that is complex and multi-level structure, and receiving the necessary resources from it, it is impossible to ignore the processes occurring in it. The influence of external environment on business activities is different and is defined as the specific characteristics and internal capacity of enterprises. In any case, businesses need information about the existing threats or the opportunities that have been opened, analysis of the factors of direct action that will ensure the adoption of sound management decisions and the creation of an adequate impact on the environment.

Consumers are one of the main external influencing factors on the enterprise activity.

Their decisions determine the range of most preferred goods and services; dictate the prices they are ready to buy a particular product for, defining, thus, performance criteria for the enterprise of its activities. For the company functioning it is needed to analyse and respond regularly to the desires of their consumers.

Stable activity of the enterprise in a changing environment is impossible without innovative activities related to the creation, dissemination and application of products and technologies that are characterized by scientific and technical novelty and they satisfy public needs. In anti-crisis management the role of innovative activity of the company is quite important because it is used for creating the science intensity and competitive products it is the key to obtaining the profits, the exit from the crisis and further development of the company.

Innovative activity is connected with the involvement of various resources, including investment and the time for researches and development conducting, and for execution of design engineering works associated with large-scale production of new products. The anti-crisis management system of innovative activity includes the following: science, technology, economy and education. The lack of any component leads to the violation of the system integrity of the enterprise innovative activity, which reduces its effectiveness and impact on the system of the enterprise crisis management in general.

In anti-crisis management the financial management has a leading role, as the biggest part of the crises that arise at the enterprise, is tied with not effective finances management. At the same time, financial crises are the most manageable and allow for a short period of time to restore the effective functioning of the enterprise, using the methods of crisis management.

There are three basic components of anti-crisis model of the enterprise financial management: monitoring, analysis and planning of finances (assets and sources of their financing; the size and composition of the resources needed to maintain the economic potential of the enterprise and expand its activities; additional funding sources; system of monitoring the state and effectiveness of financial resources); management of enterprise financial resources (the necessary amount of funds; forms of providing the necessary funds (long-term or short-term loan, cash); availability and on-time provision of funds (interest rates, other formal and informal terms of the specific funding source); the cost of possessing this types of resources (interest rates, other formal and informal terms of specific source of

funds); the risk connected with source of funds); allocation of financial resources, the optimality of transformation of financial resources (material, labor, money); appropriateness and effectiveness of investments in fixed assets, their structure; the optimality in requirement calculation and use of working capital; efficiency of financial investments). In anti-crisis financial management of the enterprise the task of providing enterprise financial resources is preferable.

Table 1

### Stages of logico-meaningful modeling in marketing management

Phase name	Maintenance phase
1. Acquiring a basic knowledge about the company, its products and markets..	Information gathering about the type and organizational structure of the enterprise, goals of its activities, products produced, pricing policies, channels and promotion methods of products, market situation (market trends, competition, customer loyalty), so the initial information is gathered to diagnose the problem
2. An investigation of the situation in which the company is, its goals and resources.	Determining the reasons on the basis of which the manager defines the problems that have emerged; examines the available resources that can be used to overcome this problem.
3. Clarification of the problem symptoms.	In-depth study of problems symptoms on the basis of market situations monitoring where the indicators of possible problems are the dynamics of sales, market share, profits, as well as the number of orders that come from dealers of the company, the level of consumer complaints, the state of competition.
4. Identification of possible causes of the problem.	The analysis of competitors ' actions, consumer behavior, changes in activity of the enterprise, changes in the external economic environment.
The actions to alleviate the manifestations of the problem.	Generate alternative approaches to solve the identified problems, which are based on actions to improve the use of certain elements of the marketing complex.
6. The definition of the expected consequences of these actions.	Determination of possible decisions impact taken not only on the problem which is solved, but on the anti-crisis programme as a whole. In addition, it is advisable to determine what additional problems can arise if the decision will not be implemented.
7. Assessing the adequacy of the information received.	The difference between the existing level of information and those which corresponds certain requirements, is the basis for defining the objectives of marketing research.

Anti-crisis management is impossible without personnel management. The HR model should contain the following components: provision of the company with appropriate staff with necessary qualifications, in the right quantity; training of workers in accordance with the adopted technology and organization of production; an objective assessment of the performance of each employee as a basis for effective labor motivation; the rights and

guarantees of social protection of each employee; security ensuring. To implement these tasks in the personnel management system generally, the functional subsystems of planning and marketing personnel are included, management of staff accounting, managing the employee relations, managing the staff development, each of which has its tasks and its range of responsibility.

In relation to these functional subsystems the management is managed based on the principles of enterprise management in general, management of separate functional and industrial divisions, general and line management.

These models create a general model of anti-crisis management that takes into account internal and external factors of occurrence of crisis situations and to avoid them.

Formation of anti-crisis management strategy in terms of dynamic economy incomplete and inaccurate information requires the development of a new method that allows the company to operate in an unstable environment. In this regard, we propose to use the method of the strategy formation of anti-crisis management based on the ability of the company to self-organization. Based on the ability of companies to self-organization, it is possible to move to a qualitatively new level of strategy formation for the enterprise to manage the enterprise and its processes of self-organization. In the process of self-organization the enterprise adapts to changes in the external environment and coordinates the strategy.

### Conclusions and suggestions

The preservation and expansion of enterprises requires to improve the use of management techniques. If in the recent past, these methods were focused only on the financial component of the performance, then over time it became an obvious failure of this approach. To prevent the crisis state of enterprises and increase the efficiency of activity is impossible without anti-crisis management. The basis of its implementation consists of, on the one hand, models of internal business processes management of the enterprise that optimizes the financial, material and human resources, on the other hand - model of marketing activity management of the enterprise, which takes into account the external environment. The formalization of proposed models will allow to quantify the results of management decisions to prevent the crisis of the company.

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